

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**Environmental Assessment**

**(Water Protection Bureau)**

**Name of Project:** Valley Grove Sewer District

**Type of Project:** Discharge residential strength wastewater to a subsurface drainfield under the Montana Ground Water Pollution Control System permit program

**Location of Project:** The site is situated in T01S, R05E northwest ¼ of the southwest ¼ of Section 20.

**City/Town:** Bozeman

**County:** Gallatin

**Description of Project:** This is a renewal of an existing permit for the Valley Grove Sewer District. Valley Grove Sewer District is currently discharging an average volume of approximately 23,000 gallons per day of wastewater from a 123 lot subdivision. Effluent from each building is conveyed via an eight (8) inch force main to a lift station with grit chamber. Effluent will then be pumped to a 6,000 gallon distribution tank. From this point effluent is pumped to 1 of four Sequencing Batch Reactors (SBR's). Each SBR is comprised of two (2) 6,000 gallon treatment tanks and a clarifier. From this point effluent is conveyed to a 6,000 gallon feed tank. Sludge from the SBR is circulated to four (4) 6,000 gallon sludge tanks for further treatment or to be removed from the system and disposed of offsite. From the feed tank effluent is directed to a 6,000 dose tank and ultimately discharged to an eight (8) zone drainfield.

The previous permit established the existing drainfield as outfall 001. Outfall 001 is situated in T1, R5, southwest ¼ of Section 20, or 45° 44'06" N latitude and 111° 08'17" W longitude. The drainfield is located on the hydraulically down gradient side of the VGS.

**Agency Action and Applicable Regulations:** The proposed action is to issue an individual MGWPCS discharge permit to a residential strength wastewater treatment operation and specify effluent limitations, monitoring and discharge reporting requirements. The Montana Water Quality Act 75-5-101 *et seq.* Montana Ground Water Pollution Control System Administrative Rules of Montana (ARM) 17.30.10 *et seq.* and Montana Pollutant Discharge Elimination System ARM 17.30.12 *et.*

**Summary of Issues:** The purpose of this action is to regulate the discharges of pollutants to state waters from the regulated facility. Issuance of an individual permit will require the facility to implement design and management practices to prevent pollution and degradation of groundwater. The action will have benefits to water quality.

## Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts). *Include frequency, duration (long or short term), magnitude, and context for any significant impacts identified. Reference other permit analyses when appropriate (ex: statement of basis). Address significant impacts related to substantive issues and concerns. Identify reasonable feasible mitigation measures (before and after) where significant impacts cannot be avoided and note any irreversible or irretrievable impacts. Include background information on affected environment if necessary to discussion.*

N = Not present or No Impact will likely occur. *Use negative declarations where appropriate (wetlands, T&E, Cultural Resources).*

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	[N] Discharge will increase moisture in the vadose zone. There are no limiting layers present in the soil profile that would impede continued treatment of effluent discharged from the drainfield. The water bearing formation is shallow and unconfined. There are no expected impacts to the local geology, soil quality and stability.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	[N] A standard 500-foot mixing zone above Class I ground water with a specific conductance of less than 1,000 µmhos. Department conducted modeling analysis, indicated there would be no water quality or nondegradation significance limits exceeded outside of mixing zone for all parameters expected in the effluent. Well logs indicate the shallow water level in the immediate area is approximately 10-15 feet below the surface.
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N] No significant impacts have been determined.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N] No significant impacts have been identified. Drainfield is covered with native soils and has been reseeded and grasses have had time to re-establish themselves.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[N] No significant impacts have been identified. The closest surface water is 600 ft down gradient of the discharge location.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL	[N] No significant impacts have been identified from the

<b>IMPACTS ON THE PHYSICAL ENVIRONMENT</b>	
RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	EA, however the Montana National Heritage Program stated that <i>Mimulus nanus</i> , <i>Isocapnia crinita</i> , and <i>Sphenopholis intermedia</i> as existing within the designated search local.
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] No significant impacts have been identified from the EA. The Montana State Historic Preservation Office reported that several cultural resource investigations have been conducted in the area, however they recommended that a cultural resource inventory is unwarranted at this time.
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N] No significant impacts have been identified. The subsurface wastewater treatment system will be below grade and not visible to the public.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed?	[N] No significant impacts have been identified from the EA. Hydraulic conductivity values indicate a rapid rate of groundwater movement. Ground water levels range from approximately 10-15 feet below the surface. Potential for ground water depletion is minimal.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	[N] No significant impacts have been identified from the EA..

<b>IMPACTS ON THE HUMAN ENVIRONMENT</b>	
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N] No significant impacts have been identified.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N] No significant impacts have been identified. As this is an existing facility with new residential hook up being added to it there is potential for an increase in commercial activity at this facility.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N] No significant impacts have been identified. As this is an existing system, no new jobs could be expected to be created.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] No significant impacts have been identified from the EA.

<b>IMPACTS ON THE HUMAN ENVIRONMENT</b>	
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] No significant impacts have been identified from the EA.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] No significant impacts have been identified from the EA.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] No significant impacts have been identified from the EA. Accesses remain unaltered
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[Y] The subsurface wastewater treatment system is for an existing subdivision with permanent residences. There is no reason to expect a increase in population at an existing facility.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] No significant impacts have been identified from the EA.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N] No significant impacts have been identified from the EA.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N] No significant impacts have been identified from the EA
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[N] No significant impacts have been identified from the EA
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[N] No significant impacts have been identified from the EA
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If	[N] No significant impacts have been identified from the EA

IMPACTS ON THE HUMAN ENVIRONMENT	
not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	

23. **Description of and Impacts of other Alternatives Considered:**

- A. No Action: Under the 'No Action' alternative the Department would not issue an individual ground water discharge permit under the Montana Ground Water Pollution Control System administrative rules. The proposed action will have environmental benefits compared to leaving the facility unpermitted.
- B. Approval with modification: The Department has not identified any necessary modifications to grant approval.

24. **Summary of Magnitude and Significance of Potential Impacts:**

Impacts were assessed with the assumption that the facility will comply with the terms and conditions of the permit. Violations of the permit could lead to significant adverse impacts to state waters. Violations of the permit are not an effect of the agency action, because the permit itself forbids such activities. However, the Department has taken steps to ensure that violations do not occur. The terms of the permit have been clarified and modified in response to comments from regulated parties, the public and other agencies. The Department provides assistance to applicants in understanding and implementing the requirements of the permit. The Department also conducts periodic inspections of permitted facilities, and identifies potential problems with design or management practices. If violations of the permit do occur, the Department will take appropriate action under the water quality act. Section 75-5-617, MCA. Enforcement sanctions for violations of the permit include injunctions, civil and administrative penalties, and cleanup orders.

25. **Cumulative Effects:** The issuance of this individual MGWPCS discharge permit would not have cumulative effects because the permit prohibits pollution and degradation of state waters.

26. **Preferred Action Alternative and Rationale:** The preferred action is to authorize the Valley Grove Sewer District under an individual MGWPCS Discharge Permit. This action is preferred because the permit program provides a regulatory mechanism for protecting and improving water quality by applying control technology to the source discharge of domestic wastes treated at the existing wastewater treatment facility for the Valley Grove Sewer District.

**Recommendation for Further Environmental Analysis:**

☐ EIS    ☐ More Detailed EA    ☒ No Further Analysis

**Rationale for Recommendation:**

27. Public Involvement: This draft EA will be posted on the Department web page: <http://www.deq.state.mt.us/ea.asp>. For copies of the draft EA or to submit comments, write or call the Montana Department of Environmental Quality c/o Dianne McKittrick, P.O. Box 200901, Helena MT 59620-0901, telephone (406) 444-3080. Comments will be received for 30-days after the date of the signature below.

The Department maintains a list of persons who have expressed an interest in all environmental water quality related issues. The Department will send a copy of this document to all persons who have submitted their name, address, and telephone number to the Department for the purpose of being included on the water quality interested parties' mailing list.

28. Persons and agencies consulted in the preparation of this analysis:  
Damon Murdo, Cultural Records Manager, Historical Preservation Society  
Montana Bureau of Mines and Geology Web site  
Montana Fish and Wildlife Web page, animal species information  
Natural Resource Information System, Montana State Library

**EA Checklist Prepared By: Louis Volpe**

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Louis Volpe

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June 30, 2007

(Name)

Date

**EA Revisions and Corrections:** As a result of comments received during the 30-day public comment period

\_\_\_\_\_  
Louis Volpe

\_\_\_\_\_  
Date

**Approved By:**

Bonnie Lovelace, Chief,  
Water Protection Bureau

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Signature

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Date